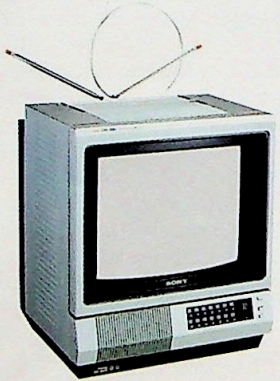
SONY®

prestley

TRINITRON® COLOR TV RECEIVER

KV-1221R



OPERATING INSTRUCTIONS

OWNER'S RECORD

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. KV-1221R 120 V Serial No. 553839

Date purchased 1/1/83

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Congratulations on choosing this advanced Sony Color TV Receiver. For best results, please read this manual thoroughly before operating the set, and keep these instructions handy for future reference.

WARNING

To prevent fire or shock hazard, do not expose the set to rain or moisture.

Dangerously high voltages are present inside the set.
Do not open the cabinet. Refer servicing to qualified personnel only.

PRECAUTIONS

- Operate only on 120V ac.
- This set is equipped with a polarized AC power cord plug (one blade of the plug is wider than the other), which will fit into the power outlet only one way. Should you be unable to insert the plug fully into the outlet, try reversing the plug. Should the plug still fail to fit, contact your dealer for assistance. Do not defeat the safety purpose of the polarized plug.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the set on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the set in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified personnel before operating it any further.
- Do not attempt to make any of the adjustments at the small holes in the rear of the set. These are special adjustments to be performed only by qualified personnel.
- Switch off the MASTER Button if the set is not to be used for several days.
- Unplug the set from the wall outlet if it is not to be used for an extended period of time.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- Save the original shipping carton and packing material; they will come in handy if you ever have to ship your set. For maximum protection, repack your set as it was originally packed at the factory.
- To keep the set looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers, since these will damage the cabinet. As a safety precaution, unplug the set before cleaning it.

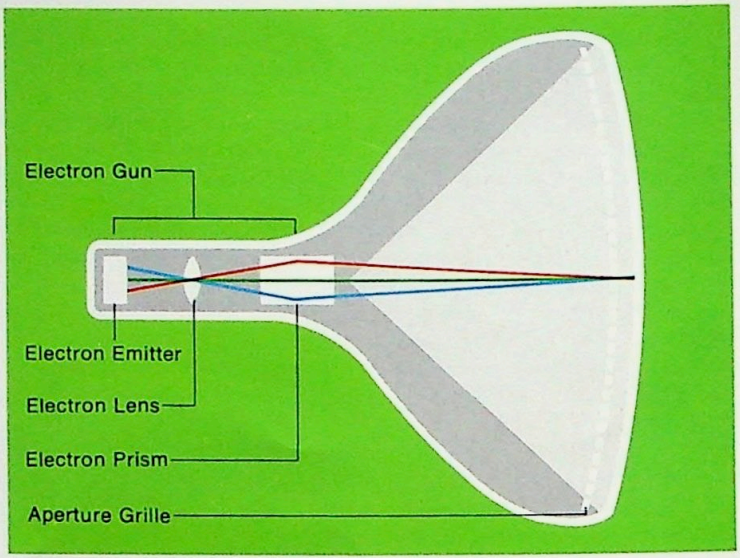
For detailed safety precautions, see the leaflet "IMPORTANT SAFEGUARDS" included with this manual in the vinyl bag.

TRINITRON SYSTEM

Your Sony Color TV employs the latest concept in color-image reproduction...the TRINITRON System. A product of intensive engineering research, the TRINITRON System ensures bright, sharp pictures and few service requirements.

The system consists of the TRINITRON Gun and "Aperture Grille". The TRINITRON Gun produces the three beams that excite the primary phosphors on the screen. The beams are aimed and focussed by a unique set of electron lenses and a pair of electron prisms. Pictures stay sharp at all points on the screen because all three beams pass through the center of a large lens. The Aperture Grille color-selection system allows a larger amount of electrons to pass through it to provide high brightness on the screen.

"Guard Grille", a series of non-reflecting vertical stripes that alternate with the phosphor color stripes, absorbs ambient light reflections. Moreover, this TV employs newly developed phosphors. The result is a high-contrast, brighter picture with no increase in energy consumption.

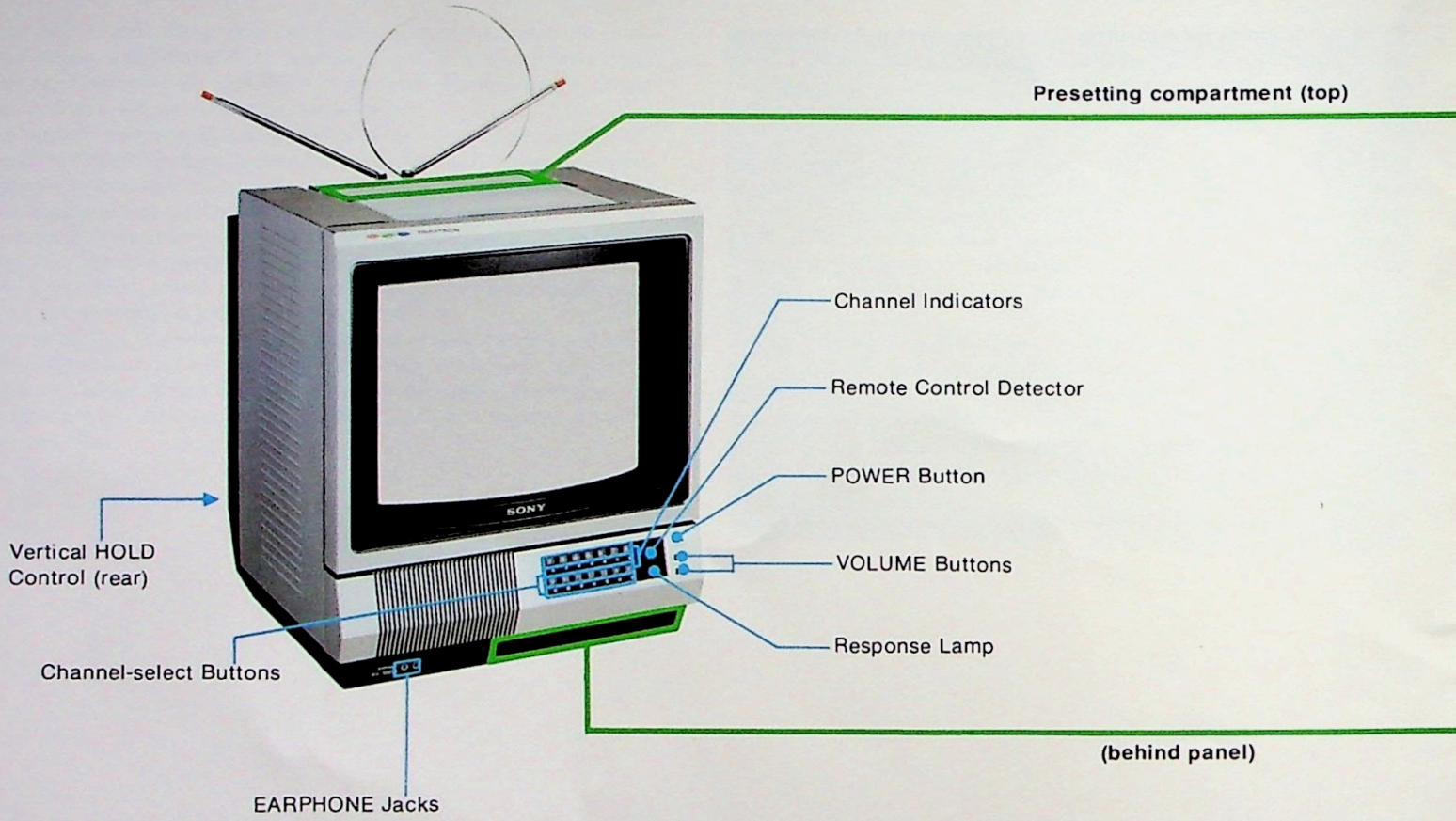


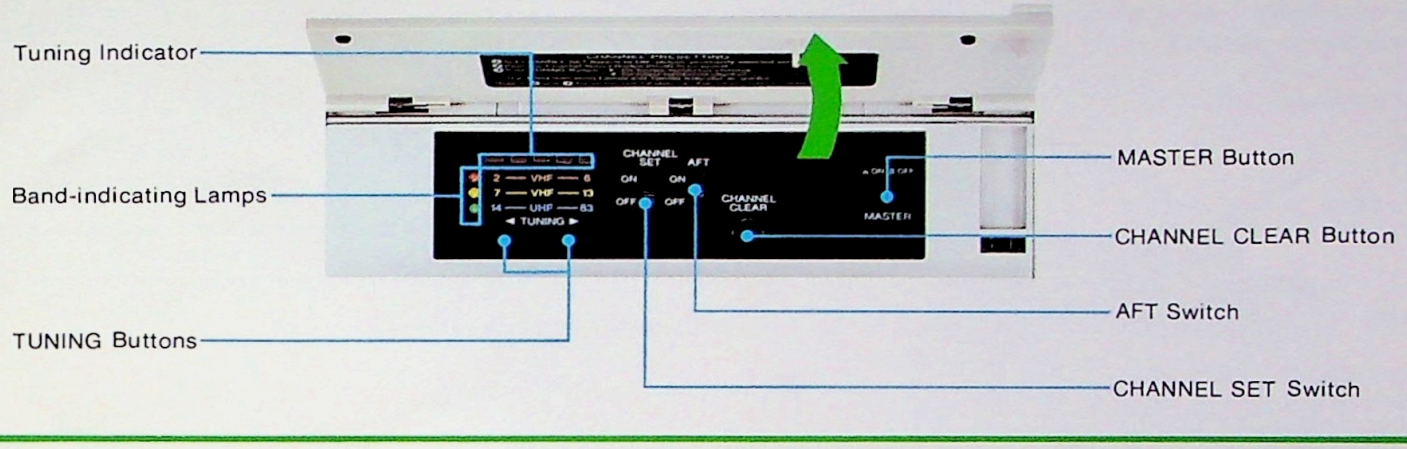
FEATURES

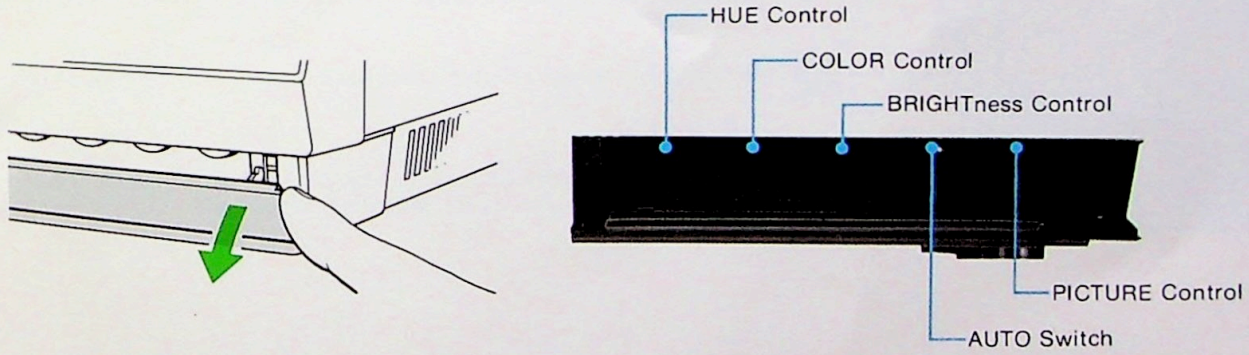
- The KV-1221R is designed as a remote control color television. With the Sony Remote Commander RM-702(supplied), you can turn your TV on or off, adjust the sound volume and select previously preset channels anywhere up to 7 meters (23 feet) away from the TV.
- The semi-automatic program search system permits easy preset tuning of up to 14 channels; VHF, UHF or inactive channels (for monitoring the playback of a video tape recorder, etc.).
- Advanced new automatic circuits are built into your TV to eliminate the necessity for frequent readjustment of the tuning and color controls. A touch of the AFT Switch instantly activates these circuits to tune your set for peak performance. A touch of the AUTO Switch locks the color processing system to factory preset values that assure realistic reproduction of every shade and tint.
- Your Sony Color TV features the ECONOQUICK system which provides a picture only a few seconds after the set is switched on. Unlike conventional instant-picture systems, there is absolutely no power consumption for this feature when the set is not in use.*

* A negligible amount of power is used to activate the remote control circuit. If desired, even this can be shut off.

LOCATION OF CONTROLS

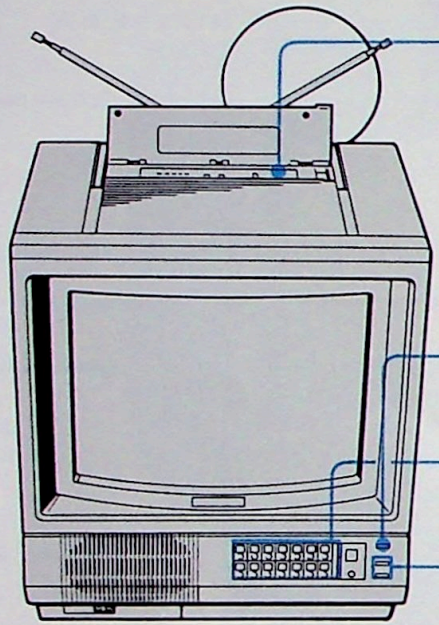



Tuning Indicator
Band-indicating Lamps
TUNING Buttons
MASTER Button
CHANNEL CLEAR Button
AFT Switch
CHANNEL SET Switch
CHANNEL SET
AFT
ON
OFF
CHANNEL CLEAR
MASTER
2 — VHF — 6
7 — VHF — 13
14 — UHF — 83
◄ TUNING ►


HUE Control
COLOR Control
BRIGHTness Control
PICTURE Control
AUTO Switch

NORMAL TV OPERATION

Operate the controls in the numbered sequence for proper operation. The Channel-select Buttons marked 2–13 are preadjusted at the factory to VHF channels 2–13. To reset the channels, see pages 14–20.



1. Press the MASTER Button located on the presetting compartment until locked.
   - Generally keep this button pushed in. In this position, a negligible amount of power is used to activate the remote control circuit.

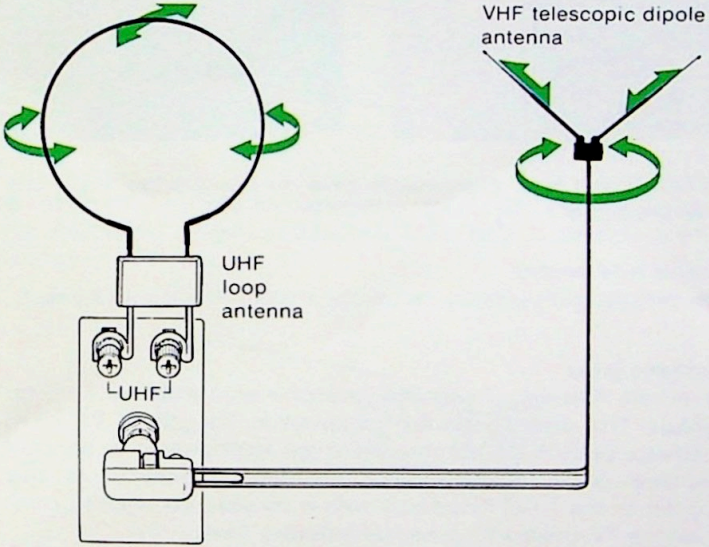
   The POWER Button on the Remote Commander does not switch this MASTER Button on or off.
   Press the MASTER Button again to switch off.
2. Press the POWER Button.
   - The picture will appear in a few seconds. To switch off, press the button again.
3. Press the Channel-select Button which has been preset to the desired channel.
4. To increase the sound volume, keep the VOLUME ▲ Button depressed.
   To decrease, keep the VOLUME ▼ Button depressed.

- The channel and sound volume selected just before the POWER Button is set to OFF will be memorized.

Indoor antenna adjustment

For VHF reception, use the VHF telescopic dipole antenna: adjust the length, direction and angle of both elements symmetrically for the best possible picture.

For UHF reception, raise the UHF loop antenna. Swing the loop back and forth and/or sideways until the best available picture is obtained.



When an outdoor antenna is to be used, refer to page 22.

Automatic picture adjustment

Set the AFT Switch to ON. The AFT (Automatic Fine Tuning) locks in the correct signal and secures a sharp picture. Set the AUTO Switch to ON. The AUTO color circuit locks onto preset levels of hue and color to provide correct reproduction.

Brightness and contrast adjustment

Correct brightness and contrast settings are important for good color reproduction.

Perform the initial adjustments as follows:

❶ Turn the PICTURE Control fully counterclockwise.

❷ Adjust the BRIGHTness Control so that the darkest parts of the picture are seen as black.

❸ Turn the PICTURE Control from the lowest setting to the desired level according to your preference and room lighting conditions.

The PICTURE Control will adjust the contrast, color intensity and brightness simultaneously in the proper ratio.

A center detent position that provides a setting suitable for average use is incorporated in the BRIGHTness and PICTURE Controls.

Manual color and hue adjustment
Both COLOR and HUE Controls have a limited adjustment range in the AUTO mode. If you wish to control color reproduction manually, set the AUTO Switch to OFF to disengage the automatic color mode.

Adjust the COLOR Control for the desired color intensity.

Picture becomes pale.

Picture becomes vivid.

Adjust the HUE Control for the most natural skin tones.

Skin tones become purplish.

Skin tones become greenish.

• COLOR and HUE adjustments have no effect upon black and white programs.

Vertical hold control
If the picture rolls vertically, adjust the V HOLD Control at the rear.

Earphone jacks
For private listening, insert the earphone plug into the [•] receptacle. This disconnects the loudspeaker. The use of the [••] receptacle permits the earphone and the loudspeaker to be used simultaneously. TV sound may be recorded by connecting a tape recorder to the [••] receptacle with a suitable connecting cord. Adjust the TV volume for a normal listening level.

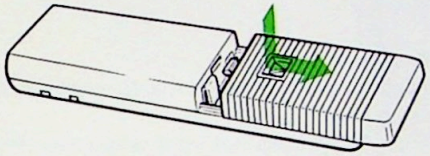
REMOTE CONTROL OPERATION

Battery installation

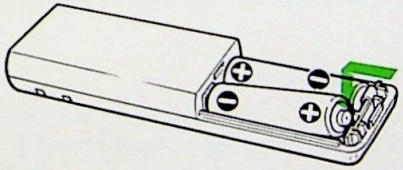
The Sony Remote Commander RM-702 operates on two AA batteries (supplied).

To install batteries into the Commander, proceed as follows:

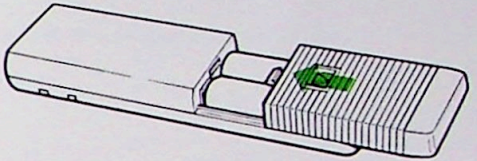
❶ Press and slide to open the battery compartment lid.



❷ Install the two size AA batteries supplied (IEC Battery Designation R6) in the battery compartment. Be sure to observe correct polarity.



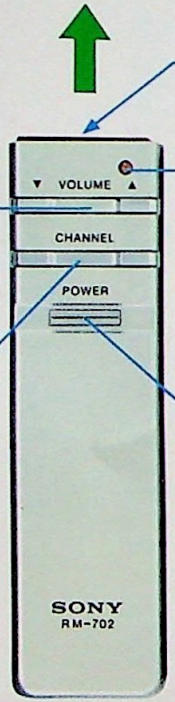
❸ Close the lid.



• In normal operation, battery life is up to half a year. When the battery is exhausted, the Remote Commander will not operate the TV properly. In this case, replace the batteries with new ones.

• When the Commander is not used for a long period of time, remove the batteries to avoid damage from possible battery leakage.

Function of buttons on the Remote Commander



Infrared Transmitter
Point toward the Remote Control Detector on the TV.

Output Indicator
This lamp lights when the Remote Commander is operating.
If the lamp does not light when any of the function buttons are pressed, battery replacement is required.

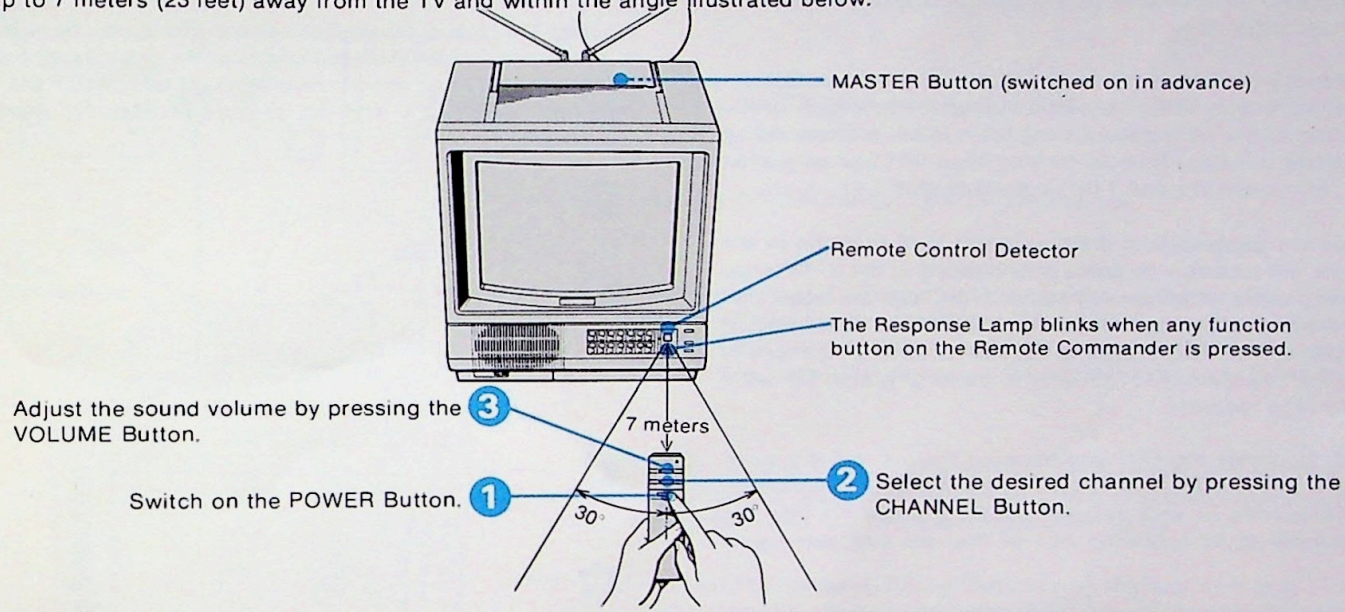
VOLUME Button
To increase the sound volume, depress the right ▲ portion of the button. To decrease, depress the left ▼ portion.

CHANNEL Button
Channels are changed continuously in sequence. Depress the right portion of the button for higher-numbered channels, or the left portion for lower-numbered channels.

POWER Button
To turn the TV on or off, press this button.

Operation of the Remote Commander

Once the MASTER Button has been switched on, you can remotely control the TV with this Commander anywhere up to 7 meters (23 feet) away from the TV and within the angle illustrated below.


MASTER Button (switched on in advance)
Remote Control Detector
The Response Lamp blinks when any function button on the Remote Commander is pressed.
Adjust the sound volume by pressing the VOLUME Button.
3
7 meters
Switch on the POWER Button.
1
2
Select the desired channel by pressing the CHANNEL Button.
30°
30°

Notes on the Remote Commander

- Keep the Commander away from extremely hot or humid places.
- When turning off the TV with the Remote Commander, the channel and volume settings will remain the same the next time the TV is turned on. However, if the MASTER Button on the TV is switched off, the TV turns on with the original channel setting and a factory preset listening level.
- Avoid dropping any foreign objects into the Commander cabinet, particularly when replacing batteries.
- To avoid a malfunction, do not simultaneously depress two or more buttons.
- The Commander RM-702 may be used only with those Sony color TV models indicated in the operating instructions.
- The TV can be operated normally with its own controls if the Commander is not available or inoperative.

INTRODUCTION TO CHANNEL PRESETTING

Your Sony color TV employs an advanced electronic tuning system that is capable of receiving up to 14 preselected television channels or other program sources such as a connected cable TV system or video tape recorder.

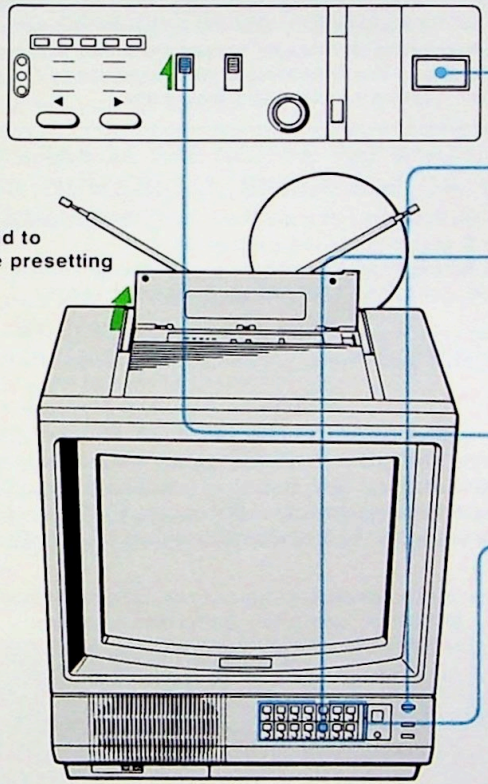
As you receive your Sony TV from the dealer, it has been factory-preadjusted to receive VHF channels 2 through 13 by simply pressing the button on the set's panel having the number corresponding to the channel number. Thus to receive channel 2, press button number 2; to receive channel 7 or 13, press button 7 or 13, etc.

Because of the geographical distribution of VHF stations in the U.S.A., there will probably be some pushbuttons in the 2–13 range that will not provide reception at your location, with the result that several of these pushbuttons will be unusable for the time being. In addition, you will probably wish to receive several of the locally available UHF channels, and possibly to make provision for cable TV or video tape recorder.

If you wish to preset the UHF channels on the unused positions (this page), or if you wish to arrange the VHF and UHF channels in numerical sequence or your desired sequence (page 17), perform channel presetting by following one of the two suggested procedures.

Ⓐ TO PRESET UHF CHANNELS ON THE PRESENTLY UNUSED POSITIONS

By using the factory preset 2–13 pushbuttons, you have been able to determine which VHF stations provide good reception. From the local newspaper, or your neighbors, or another TV set, you can determine which UHF stations provide satisfactory reception in your locality.



Open the lid to expose the presetting controls.

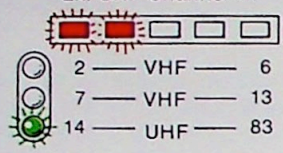
1. Press the MASTER Button in until locked.

2. Press the POWER Button, (the TV will turn on).

3. Press the highest numbered VHF Channel-select Button. (Normally channel 13). If no picture appears on the screen, press the next lower VHF Channel-select Button (12). If no picture appears, continue this procedure with the next lower VHF channel until a picture appears on the screen.

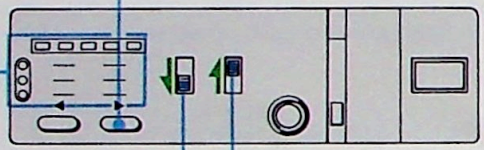
4. Set the CHANNEL SET Switch to ON. (This switch must be ON for pre-setting stations, and it must be OFF for rechecking stations already preset).
   - The position of the AFT Switch does not matter.

5. Press the Channel-select Button that you wish to preset to receive a UHF station. (You may use the lower right-most two buttons marked with asterisks or any VHF position 2 – 13 that does not contain an active channel).
   - The Channel Indicator will illuminate and the station you have selected in step 3 will appear on the screen. (Disregard the number or asterisk indicated as this will be changed later.)



Tuning Indicator and Band Indicator Lamps

The red lamp when lit shows you are in the Band including channels 2 throguh 6, the yellow lamp when lit shows you are in the band including channels 7 through 13, and the green lamp when lit shows you are in the band including channels 14 through 83. Within each of these bands, the multi-segment Tuning Indicator will show in what portion of the band you are tuned to at any given moment, with the left-most segment indicating the lowest frequency within each band, and the right-most segment indicating the highest frequency within each band.



6. Press the TUNING-up ▶ Button (do not hold the button in, just press it momentarily). Allow 1 or 2 seconds for the picture to stabilize.
   • In strong signal areas, tuning may sometimes stop between channels. If a station is not received, press the TUNING-up ▶ Button again.

7. Repeat step 6 as required until your desired station appears on the screen. Use the Tuning Indicator and Band Indicator Lamps (explained above) as guides.

   STOP! (READ NOTE)
   NOTE: You have preset the desired UHF station on the Channel-select Button you have selected. If another UHF station is not available or you do not wish to continue presetting at this time, proceed to step 9. If you wish to continue presetting other available UHF stations, proceed to step 8.

8. Select another vacant channel by pressing the desired Channel-select Button; press TUNING-up ▶ Button, and allow picture to stabilize; continue this procedure until all desired UHF stations have been preselected (if problems are encountered refer to steps 5, 6 and 7).

9. Set the CHANNEL SET Switch to OFF and make sure the AFT Switch is now set to ON.

After the presetting has been completed, replace the Channel Indicating Segments to correspond to your presetting (see page 18) and close the presetting compartment lid.

- If there is a VTR position to be included, refer to page 20.
- To use your TV set with a cable television system, contact a representative of the cable company for instructions regarding channel selection. In most cases, this adjustment will be made by the cable company at the time of installation.

Ⓑ TO ARRANGE THE ACTIVE VHF AND UHF CHANNELS IN NUMERICAL SEQUENCE OR YOUR DESIRED SEQUENCE

Any push button can be set to any frequency from below channel 2 to the highest UHF TV frequency.

❶ Make a list of your receivable VHF and UHF stations and list them as shown in the following example.

VHF: Channels 2, 4, 5, 7, 9, 11 and 13
UHF: Channels 21, 25, 31, 41 and 47

❷ Having made such a list, remove the Channel Indicator Sheet from the panel, and insert numbers to correspond to your list (instructions on changing numbers are on page 18). You are now ready to preset the Channel-select Button to correspond to your selection of stations.

Example

❸ Press the MASTER Button in until locked.
❹ Press the POWER Button, (the TV will turn on).
❺ Set the CHANNEL SET Switch to ON (This switch must be ON for presetting stations, and it must be OFF for rechecking stations already preset).
❻ Press the Channel-select Button to be preset first. The station selected just before the CHANNEL SET Switch had been set to ON will appear on the screen (the channels may be preset in any order, however, it is more convenient to start with the lowest channel number and proceed to the highest channel number when channels are placed in ascending numerical order).

- In our example above, we would start by pressing the Channel-select Button marked 4, since channel 2 has already been preset at the factory.

❼ Using the Tuning Indicator and Band Indicator Lamps (explained in section Ⓐ), press the TUNING-up ▶ Button for locating higher numbered channels or the TUNING-down ◀ Button for locating lower numbered channels. (do not hold the button in, just press it momentarily).
Allow 1 or 2 seconds for the picture to stabilize.
❽ Repeat step ❼, as required until your desired station is received.

- In strong signal areas, tuning may sometimes stop between channels. If your desired station cannot be received, press the TUNING Button again.

❾ Press the next Channel-select Button to be preset and press the TUNING-up ▶ or TUNING-down ◀ Button as required to locate the next station.

- In our example we would now press the next Channel-select Button to the right, marked 5, and press the TUNING-up ▶ Button to receive the next higher station.

❿ Repeat step ❾ until all desired stations have been preset.
⓫ Set the CHANNEL SET Switch to OFF and make sure that the AFT Switch is now set to ON.

Alternative Tuning Method

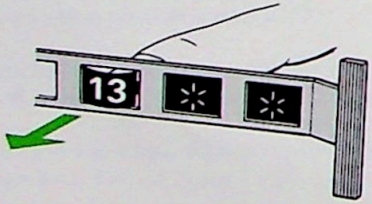
Before tuning in the desired station, you may use the CHANNEL CLEAR Button to erase any memory on the depressed Channel-select Button, and to position its tuning to a frequency below channel 2. Then use the TUNING-up ▶ Button to locate your desired station.

Note: To skip an unused position during remote control operation, press the Channel-select Button to be skipped and then the CHANNEL CLEAR Button. (The CHANNEL CLEAR Button only works while the CHANNEL SET Switch is set to ON).

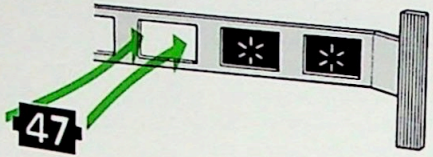
To replace the number-indicating segments

❶ Remove the Channel Indicator Sheets.

❷ Press the segment out from the rear.



❸ Install the correct number segment.



❹ Replace the sheets in the original positions.

To fine-tune the channel manually

In case of extreme interference, or of an extremely weak station, adjust the fine tuning manually as follows.

Check that the CHANNEL SET Switch is set to OFF, set the AFT Switch to OFF and keep the TUNING-up ▶ or TUNING-down ◀ Button depressed until a clear picture is obtained. Refer to the following chart.

When the fine tuning is completed, close the presetting compartment lid with the AFT Switch set to OFF.

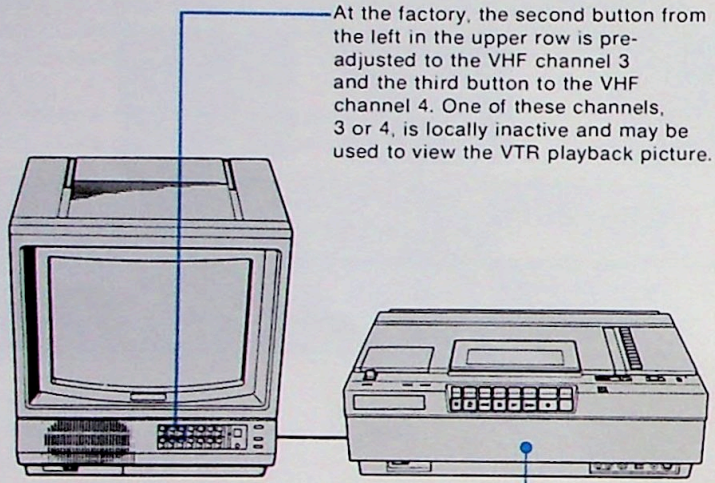
Adjacent TV station — No picture — Blurred No color — Clear picture — Herringbone pattern — Distorted — No picture — Adjacent TV station

Press the ▶ button.

Press the ◀ Button.

To preset for VTR playback

To view the playback picture from a Sony Betamax videocassette recorder (or other VTR) equipped with an RF output terminal, connect a VHF antenna to the recorder (not to the TV) and then connect the VHF (or RF) OUT terminal of the recorder to the VHF antenna terminal of the TV.


At the factory, the second button from the left in the upper row is pre-adjusted to the VHF channel 3 and the third button to the VHF channel 4. One of these channels, 3 or 4, is locally inactive and may be used to view the VTR playback picture.
Sony Betamax videocassette recorder.

If you wish to preset some other position to receive the signals from the recorder, complete the connections and proceed as follows.

❶ Set the recorder to the playback mode.
The signal from the recorder will be fed to the TV.
❷ Set the CHANNEL SET Switch to ON.
❸ Press the Channel-select Button to be preset for viewing the playback picture.
❹ Press the CHANNEL CLEAR Button.
❺ Press the TUNING-up ▶ Button until VHF channel 3 or 4 (the operating channel of the rf unit built into the recorder) is received, whereupon a clear picture will be obtained.
❻ Set the CHANNEL SET Switch to OFF.

SPECIFICATIONS

Television system	American TV standards
Channel coverage	VHF channels 2 – 13 } a total of up to 14 UHF channels 14 – 83 } preselected channels
Picture tube	Trinitron tube 12-inch picture measured diagonally 90-degreee deflection
Antenna	VHF telescopic dipole antenna UHF loop antenna VHF 75-ohm external antenna terminal UHF 300-ohm external antenna terminals
Speaker	8 × 12 cm (3⅛ × 4¾ inches)
Power requirements	120V ac, 60Hz
Power consumption	100W (max.), 71W (average) 2.5 W (in standby condition)
Dimensions	approx. 336 × 397 × 400 mm (w/h/d) (13¼ × 15⅝ × 15¾ inches)
Weight	approx. 12.5 kg (27 lb 8 oz)
Accessories supplied	Remote Commander Earphone Channel number segments

Remote Commander	**RM-702**
Remote control system	Infrared control
Power requirements	DC 3V Battery size AA × 2 (IEC Battery Designation R6)
Dimensions	approx. 36 × 21.5× 133 mm (w/h/d) (1⅜ × ⅞ × 5¼ inches)
Weight	approx. 80 g (3 oz), incl. batteries
Accessory supplied	Battery size AA 2 pcs.

Design and specifications are subject to change without notice.

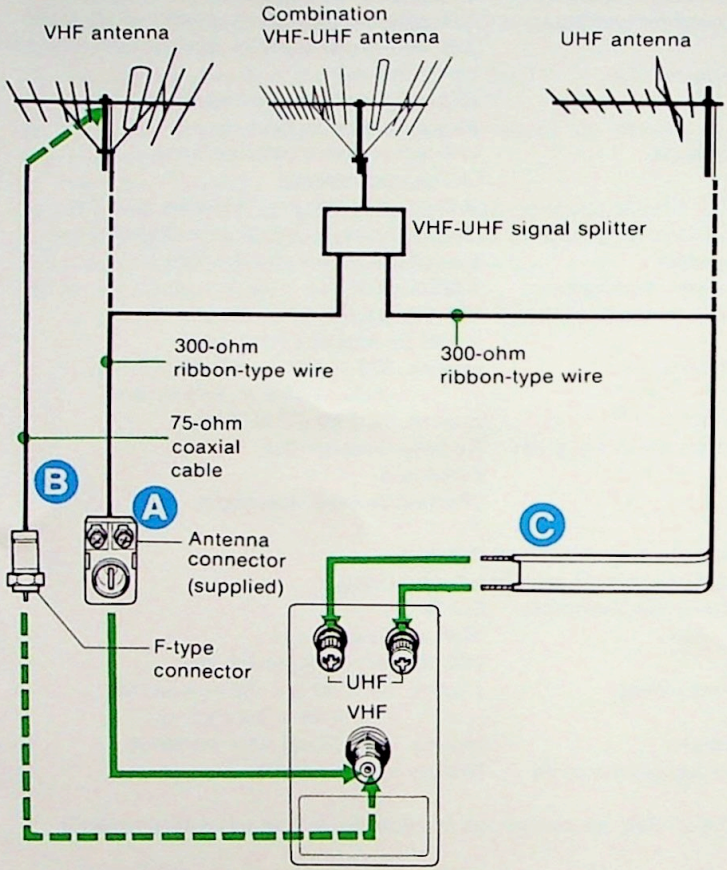
EXTERNAL ANTENNA CONNECTION

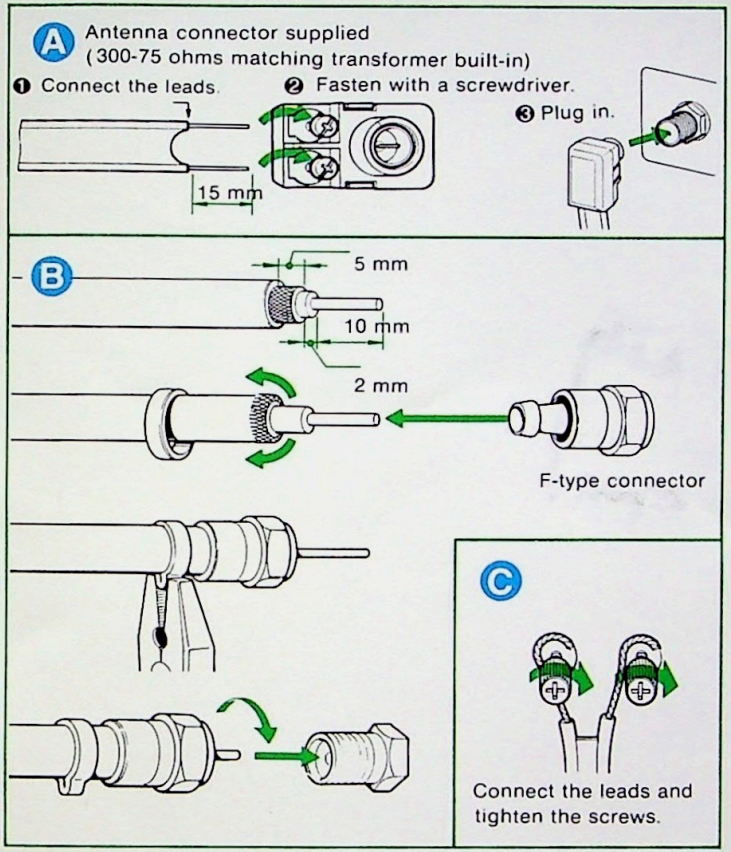
In difficult reception areas (inside steel-frame buildings, in mountainous areas, or at great distances from the transmitter), the use of an external antenna will give better reception.
VHF and UHF antennas with separate lead-in wires, or a combination VHF-UHF antenna with a single lead-in wire may be used. When a combination VHF-UHF antenna is in use, the signals, separated by a VHF-UHF signal splitter, are fed to the VHF and UHF terminals of the TV respectively.

Connection to the VHF antenna terminal
Pull out the Antenna Connector from the VHF Antenna Terminal, thus disconnecting the VHF telescopic dipole antenna.
When using a 300-ohm ribbon-type lead-in, connect the leads to the Antenna Connector, previously attached to the leads from the VHF indoor antenna, and then connect the Antenna Connector to the VHF Antenna Terminal. —— Ⓐ
When using a 75-ohm coaxial cable lead-in from the antenna, connect it to the VHF Antenna Terminal with an F-type connector (optional). —— Ⓑ

Connection to the UHF antenna terminals
Loosen the nuts on the UHF Antenna Terminals, pull out the lugs of the UHF loop antenna, then connect a 300-ohm ribbon-type lead-in wire to the UHF Antenna Terminals. —— Ⓒ

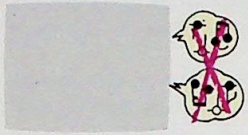
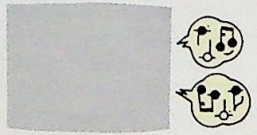
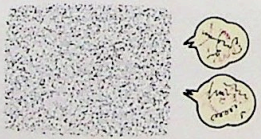
Note: When playing back a recorded tape from a video tape recorder, connect a suitable antenna to the recorder, and connect the VHF antenna terminal of the TV to the VHF (or RF) OUT terminal of the recorder. For details, refer to the operating instructions furnished with the recorder.




A
Antenna connector supplied
(300-75 ohms matching transformer built-in)
❶ Connect the leads.
❷ Fasten with a screwdriver.
❸ Plug in.
15 mm
B
5 mm
10 mm
2 mm
F-type connector
C
Connect the leads and
tighten the screws.

CHECKING THE SET BY YOURSELF

Many apparent malfunctions may be caused by slight misadjustments of the regular controls or some other equally simple cause. If any difficulty arises in the operation of your set, first check through this illustrated list of symptoms and corrections.
Should the difficulty persist, unplug the set and contact your Sony dealer.

SYMPTOM	CORRECTION
 **no picture (screen not lit), no sound**	• Plug the set into a working outlet. • Press the MASTER and POWER Buttons.
 **no picture (screen not lit), but good sound**	• Turn the BRIGHTness or PICTURE Control clockwise.
good picture but no sound	• Depress the VOLUME [▲] Button. • Check that the earphone is disconnected from the [•] EARPHONE Jack.
 **no picture, no sound, but snow and noise only**	• Connect the antenna properly. • Check the outdoor antenna.

SYMPTOM	CORRECTION
no color	• Set the AUTO Switch to ON. • Set the AFT Switch to ON. • Turn the COLOR Control clockwise.
herringbone pattern, stripes, no color, no picture, too indistinct, etc.	• Set the AFT Switch to OFF and adjust the fine tuning with the TUNING-up ▶ or TUNING-down ◀ Button.
dotted lines or stripes	• Often caused by interference from autos, neon signs, hair dryers, electric razors, etc. Try adjusting the antenna for minimum interference.
double images or "ghosts"	• Readjust the indoor antenna. Reflections from nearby mountains or buildings often cause this problem. In such cases, a highly directional outdoor antenna may improve the picture.

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